



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,894	12/27/2000	Thomas J. Clough	ES-65 - DIV-8	1336

7590

10/04/2002

Thomas J. Clough
ENSCI Inc.
P.O. Box 718
Pismo Beach, CA 93448

EXAMINER

ROCHE, LEANNA M

ART UNIT

PAPER NUMBER

1771

DATE MAILED: 10/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,894

Applicant(s)

CLOUGH, THOMAS J.

Examiner

Leanna Roche

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 1,5,9 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119(e) as follows:

The second application must be an application for a patent for an invention which is also disclosed in the first application (the parent or provisional application); the disclosure of the invention in the parent application and in the second application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ 2d 1077 (Fed. Cir. 1994).

2. This application repeats a substantial portion of prior Application No. 09/167320, filed October 6, 1998, and adds and claims additional disclosure not presented in the prior application. Since this application names an inventor or inventors named in the prior application, it may constitute a continuation-in-part of the prior application. Should applicant desire to obtain the benefit of the filing date of the prior application, attention is directed to 35 U.S.C. 120 and 37 CFR 1.78.

3. For the purposes of examination, this application has been treated as a continuation-in-part. However, because all of the claims contain material not previously disclosed in the prior application, none of the claims are eligible for the benefit of the filing date of the prior application.

Specification

4. The disclosure is objected to because of the following informalities: in line 2 of Page 1, either delete "division" and insert "continuation-in-part" or completely delete lines 1-5 of Page 1. Appropriate correction is required.

Claim Objections

5. Claims 1, 9 and 16 are objected to because of the following informalities: in line 13 of Claim 1, in line 13 of Claim 9, and in line 14 of Claim 16, delete the word "a" before the word "contact". Appropriate correction is required.

6. Claim 5 is objected to because of the following informalities: in line 1 of Claim 5, insert "agent" after the word "active". Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

9. Claims 1, 9 and 16 disclose an "internal surface modifier component" distributed on the internal surfaces of the polymer particles. This term is not described or defined in the specification. Therefore, this term reads on any possible component which may potentially modify the surface of a pore in a particle. There is no support in the specification to show that any and every possible component which could ever be used to modify a pore surface could be used in Applicant's invention for Applicant's purposes.

10. Claims 9, 11, 16 and 18 disclose a "functional agent". However, Applicant's specification does not provide support for the incorporation of any and every of the countless possible agents which may be considered functional or which may be considered suitable for use in polymer products. Therefore, there is no support that Applicant had possession of the claimed invention.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. Claims 1, 9 and 16 claims "...organic polymer particles having open cell pores and internal surfaces which pores represent at least about 50% of the volume of the pores of the particles and having a non-spherical geometry." The phrase "which pores represent at least about 50% of the volume of the pores of the particles" is confusing because it is unclear how the pores can represent 50% of the volume of the pores. If Applicant intends to claim internal surfaces which represent at least 50% of the volume of the pores, it is unclear how a surface can represent a volumetric value. It is also unclear if Applicant intends to claim pores of non-spherical geometry or particles of non-spherical geometry. Clarification is required.

Art Unit: 1771

14. Claims 1, 9 and 16 disclose a process comprising steps 2) and 3), but claims 1, 9 and 16 do not disclose a step 1). Therefore, these claims are indefinite because it is unclear what step must be performed prior to the step 2) - step 3) sequence.

15. The term "surface modifier component" in claims 1, 9 and 16 is a relative term which renders the claim indefinite. The term "surface modifier component" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not possible for the examiner to determine what material is distributed on the internal surfaces of the porous resilient polymer particles, and therefore this reads on any material on the internal surfaces of the polymer particles.

16. The term "surface active agent" in claims 4 and 5 is a relative term which renders the claim indefinite. The term "surface active agent" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear if Applicant intends to claim a surfactant, or if Applicant is referring to the internal surface modifier component.

17. The phrase "reloading the open cell pores with a functional agent" is indefinite because it is unclear what Applicant intends to claim. The term "reloading" would conventionally indicate that the open cell pores of the organic polymer were loaded with a functional agent, the functional agent was then removed from the open cell pores, and then "reloaded" into the open cell pores. Because Applicant only discloses "reloading"

Art Unit: 1771

the functional agent, it appears that the phrase should read "loading the open cell pores with functional agent". However, clarification is required.

Claim Rejections - 35 USC § 102

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 1, 4, 6, 7, 9-20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Reimann et al. (USPN 4566971).

Reimann discloses a carrier material for microorganisms comprising a soft, highly flexible and compressible, abrasion resistant, open-cell material that may be comprised of polyethylene or polypropylene. The open-cell material of Reimann has a low specific gravity. The open-cell material may be in the form of cubes. Activated carbon can be applied to the carrier material to improve the oxygen transfer efficiency of the material. Microorganisms, which are bioactive, may be firmly settled and attached in the pores in the interior of carrier material, modifying the internal surfaces of the carrier material to provide carrier materials which can purify wastewater. The carrier material of Reimann produces a fine, free-floating particulate material.

It is the examiner's position that the carrier material of Reimann is identical to or only slightly different than the porous resilient organic polymer prepared by the method of the claim(s), because both are comprised of flexible, open-cell organic particles containing bioactive materials within their pores, with non-spherical geometries, and modified internal surfaces. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. See *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). The carrier material of Reimann either anticipated or strongly suggested the claimed subject

Art Unit: 1771

matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Reimann.

21. Claims 2, 3, 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reimann et al. (USPN 4566971).

Reimann discloses porous particles from 1-5 mm in diameter which have pores from 0.1 to 3 mm in diameter. Reimann does not specifically disclose a mean pore diameter of 0.075 to 10 microns and a mean particle size of less than 100 microns. However, it would have been obvious to one having ordinary skill in the art at the time this invention was made to use particles having a size and a pore size within Applicant's presently claimed ranges, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present case, it would have been obvious to reduce the particle size and the pore size of the carrier material of Reimann, motivated by the desire to produce a wastewater purification material with an increased surface area so that more wastewater is exposed to the purifying means in less time and space.

22. Claims 1, 4, 9, 11, 12, 16, 18 and 19 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Webster et al. (USPN 6162646).

Art Unit: 1771

Webster is directed to polymer foam carrier particles comprising open-cell polymer materials of low density which have been formed in various non-spherical shapes. The carrier particles of Webster may contain surfactants for opening up the cells of the foam and for controlling the surface energy of the foam. The carrier particles of Webster are impregnated with a dye system indicator complex which is reactive to urine, and therefore reads on a bioactive material. Webster discloses forming the free particulate material by mixing the carrier material and water and blending the mixture to produce chopped foam.

It is the examiner's position that the polymer foam carrier particles of Webster are identical to or only slightly different than the claimed porous resilient organic polymer product prepared by the method of the claim(s), because both are comprised of porous, open-cell organic particles having non-spherical geometry and having modified surfaces and containing bioactive functional agents. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). The polymer foam carrier particles of Webster either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on

Art Unit: 1771

Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Webster.

Conclusion

23. This prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brewer et al. (USPN 4331650), Shin et al. (USPN 5254254), Shibata et al. (USPN 5268098), Whistler (USPN 5486507) and Essinger, Jr. (USPN 5665678).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leanna Roche whose telephone number is 703-308-6549. The examiner can normally be reached on Monday through Friday from 8:30 am to 6:00 pm (with alternate Mondays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



lmr
September 30, 2002



TERREL MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700